

G. S. CURRAN & COMPANY, LTD.

Actuarial Services

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MEMORANDUM

To: Board of Trustees
Municipal Police Employees' Retirement System

From: Gregory M. Curran, FCA, MAAA, ASA
G. S. Curran & Company, Ltd.

Date: August 28, 2017

Re: Update to actuarial equivalence and option factors

Background:

The Board of Trustees approved a plan to reduce the actuarial rate of return from 7.5% to 7.125% over the three fiscal years from 2017 through 2019 according to the following schedule:

1. 7.325% as of July 1, 2017 to be incorporated in the June 30, 2017 actuarial valuation report
2. 7.200% as of July 1, 2018 to be incorporated in the June 30, 2018 actuarial valuation report
3. 7.125% as of July 1, 2019 to be incorporated in the June 30, 2019 actuarial valuation report

These changes will result in changes in assumptions in each of the annual actuarial valuation reports for fiscal 2017 through 2019.

The actuarial rate of return used to discount plan liabilities has also been used to determine actuarial equivalence factors and option factors for determining member benefits. In the past, the Board has approved the basis for actuarial equivalence factors to be used by the system's actuary in making individual actuarial calculations to support the administration of the retirement system under the statutes.

The following actuarial equivalence calculations require the actuary to use the investment return assumption in addition to specified mortality assumptions:

A. Actuarial Equivalence Factors:

1. Single Life Option Factors
2. Joint & Survivor Option Factors (Option 2, Option 3, Option 4, Option 2 Popup, Option 3 Popup along with automatic COLA options)
3. IBO Lump Sum Conversions
4. Sick and Annual Leave Conversions
5. Disability Award Lifetime Equivalences
6. Early Retirement Reduction Factors

B. Transfers and Purchases of Service Credit:

In addition, the calculation of the actuarial cost of purchases and transfers of service credit require the use of the investment return assumption along with the plan's demographic and other actuarial valuation assumptions, with some adjustments for anti-selection.

Recommendation:

Although the Board has elected to phase-in the effect of the change in actuarial rate of return over the coming three years to smooth out the effect of the change on employer contribution rates, the ultimate Board adopted long-term rate of return assumption is 7.125%. It is our recommendation that the actuarial equivalence factors mentioned in A above be recalculated at the ultimate long-term rate of return assumption approved by the Board of 7.125% with an effective date of July 1, 2018 for implementation. An effective date of July 1, 2018 aligns with the date of implementation of the new employer contribution rate calculated based upon the first step of the change in assumed rate of return. In addition, this gives the system time to calculate new actuarial equivalence factors and to incorporate new option factors in the software used by the staff to determine plan benefits. The lead time allows the staff to incorporate the new factors in time to be used for estimated benefits with proposed dates of retirement on or after July 1, 2018.

Since actuarial transfers and purchases of service credit are computed based on valuation assumptions, we recommend the incorporation of the annual valuation assumptions including the updated actuarial rate of return assumption each year based upon the following schedule:

1. Incorporate the assumptions used within the June 30, 2017 Board approved actuarial valuation report (including the 7.325% assumed rate of return) for all valuation dates on transfers and purchases from July 1, 2018 through June 30, 2019.
2. Incorporate the assumptions used within the June 30, 2018 Board approved actuarial valuation report (including the 7.200% assumed rate of return) for all valuation dates on transfers and purchases from July 1, 2019 through June 30, 2020.
3. Incorporate the assumptions used within the June 30, 2019 Board approved actuarial valuation report (including the 7.125% assumed rate of return) for all valuation dates on transfers and purchases from July 1, 2020 through June 30, 2021.

System: Municipal Police Employees' Retirement System

Effective Date: July 1, 2018

Category	Male Mortality Table		Female Mortality Table		Interest Rate	Annuity Type	Unisex / Sex Distinct	% Male
	Male Mortality as stated in the 2017 Actuarial Valuation Report	Female Mortality as stated in the 2017 Actuarial Valuation Report	Male Mortality as stated in the 2017 Actuarial Valuation Report	Female Mortality as stated in the 2017 Actuarial Valuation Report				
Transfers / Purchases	Male Mortality as stated in the 2017 Actuarial Valuation Report	Female Mortality as stated in the 2017 Actuarial Valuation Report			7.325%	Due	S/D	N/A
IBO Lump Sum Conversions	RP-2000 Combined Healthy Male Table with Blue Collar Adjustment	RP-2000 Combined Healthy Female Table with Blue Collar Adjustment set back 1 year			7.125%	Due	U	75%
Early Retirement Reduction Factors	RP-2000 Combined Healthy Male Table with Blue Collar Adjustment	RP-2000 Combined Healthy Female Table with Blue Collar Adjustment set back 1 year			7.125%	Due	U	85%
Disability Award Lifetime Equivalences	RP-2000 Disabled Lives Mortality Table for Males	RP-2000 Disabled Lives Mortality Table for Females			7.125%	Due	U	75%
Single Life Option Factors	RP-2000 Combined Healthy Male Table with Blue Collar Adjustment	RP-2000 Combined Healthy Females Table with Blue Collar Adjustment set back 1 year			7.125%	Due	U	75%
Joint & Survivor Option Factors	RP-2000 Combined Healthy Male Table with Blue Collar Adjustment	RP-2000 Combined Healthy Females Table with Blue Collar Adjustment set back 1 year			7.125%	Due	U	90%
Sick and Annual Leave Conversion	RP-2000 Combined Healthy Male Table with Blue Collar Adjustment projected to 2029 (Using Scale AA)	RP-2000 Combined Healthy Female Table with Blue Collar Adjustment set back 1 year and projected to 2029 (Scale AA)			7.125%	Due	S/D	N/A

To be reviewed at the September 2017 meeting